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Please find below and/or attached an Office communication concerning this application or proceeding.

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/627,162
Filing Date: July 25, 2003
Appellant(s): KIRCHMEYER ET AL.

Ashley I. Pezzner
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/9/2009 appealing from the Office action mailed 3/9/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: the non-statutory double patenting rejection has been withdrawn because of appellant's filing of terminal disclaimer on 8/25/2009.

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner: non-statutory double patenting rejection over claims 3-5 of copending application serial no. 11/178,852.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,300,575	JONAS	4-1994
4,728,399	MOEHWALD	3-1988

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 7-24, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonas (US 5,300,575) in view of Moehwald (US 4,728,399).

Jonas discloses a polymerization of 3,4-dialkoxythiophenes wherein 3,4-dialkoxythiophene (col. 2, lines 12-44), a polyacid (i.e., polyanion) (col. 2, lines 45-52), an oxidizing agent (col. 3, lines 11-15; col. 3, line 47 to col. 4, line 21), and strong inorganic acids to increase the polymerization rate (col. 4, lines 22-26) are dispersed in water (col. 3, lines 19-25). Jonas further teaches that the oxidizing agent is used in an amount of 0.1-2 equivalents per

mol thiophene (col. 4, lines 15-21) and that catalytically effective amounts of iron, cobalt, nickel, molybdenum, and vanadium ions are used as oxidizing agents (col. 3, lines 58-62).

Jonas fails to disclose (i) the use of peroxodisulfuric acid as the oxidizing agent and (ii) the pH during polymerization.

With respect to (i), Jonas does not disclose the use the presently claimed peroxodisulfuric acid as an oxidizing agent in its composition; however, it does disclose that oxidizing agents that are typically used in oxidative polymerization of pyrrole are used in polymerizing dialkoxythiophene (col. 3, lines 12-13).

Moehwald discloses an electrically conductive polymer that is formed by treating polymer-forming monomers such as pyrroles and thiophenes with an oxidizing agent (col. 2, lines 11-13). Oxidizing agents which have proven to be useful are peroxoacids such as peroxodisulfuric acid (col. 3, lines 3-5).

Given that Jonas is open to any oxidizing agent that is used in the oxidative polymerization of pyrrole and further given that Moehwald discloses that peroxodisulfuric acid is a particularly useful oxidizing agent in pyrrole polymerizations, it would have been obvious to one of ordinary skill in the art to use peroxodisulfuric acid as an oxidizing agent in Jonas.

With respect to (ii), there are two reasons why the presently claimed pH during polymerization of 1.5 or less is *prima facie* obvious.

On the one hand, the instant specification on page 7, lines 12-18 teaches that peroxodisulfuric acid provides for sufficient pH during polymerization, i.e., less than 1.5. Therefore, the process taught by Jonas and Moehwald intrinsically has polymerization occur at a pH of 1.5 or less since peroxodisulfuric acid is present.

On the other hand, Jonas teaches the use of strong acids which would necessarily decrease pH in order to increase polymerization rate (col. 4, lines 22-25). Those acids include hydrochloric acid, sulfonic acid, and aromatic sulfonic acids. Given that Jonas teaches the use of strong acids which intrinsically decrease pH, including pH as low as presently claimed, in order to increase polymerization rate, it would have been obvious to one of ordinary skill in the art to have a pH of 1.5 or less.

(10) Response to Argument

Appellant argues that Jonas and Moehwald fails to disclose or suggest that polymerizing at pH of 1.5 or less provides for improved transparency and increased conductivity.

First, there is no requirement that a person of ordinary skill in the art would have recognized the property at the time of the invention but only that the subject matter is present in the prior art reference. Second, from Table 1, it is not made clear that there is actually is an improvement in transparency. Specifically, the examples show that the transparency is approximately the same for both inventive and comparative data.

Appellant argues that polymerizing at a pH of 1.5 or less unexpectedly provides for improved transparency and increased conductivity.

First, based on the data in Table 1, the differences in transparency do not appear to be significant.

Second, it is noted that two comparisons are made in the data of Table 2. First, Examples 13-18 are compared to Comp. Ex. 3 to show difference of polymerization at pH of 1.5 or less.

Second, Examples 15-18 are compared to Example 13 to show difference by adding water-soluble inorganic acids or water-soluble organic acids.

The first comparison is not a proper side-by-side comparison. In Table 2, inventive Examples 13 and 15-18 and comparative Com. Ex. 3 are not proper side-by-side examples because the water dispersion of complex on which they are based (Examples 1 and 3-6 and Com. Ex. 1, respectively) are not directly comparable. Specifically, the type of oxidizing agent (sodium peroxodisulfate) is different from inventive oxidizing agent (peroxodisulfuric acid) and the amount of oxidizing agent is greater than the amounts in inventive examples.

The second comparison is also not a proper side-by-side comparison. In Table 2, Examples 15-17 and Example 13 are not proper side-by-side examples because the water dispersions of complex on which they are based (Examples 3-6 and 1, respectively) are not directly comparable. Specifically, the amount of peroxodisulfuric acid in Example 1 (12.75 parts by weight) is less than the amount of the same in Examples 3-4 (13.20 parts by weight). Furthermore, each of these examples has a pH of less than 1.5 and is not a proper comparison to independent claims 7 and 9 which do not include the use of an additional acid. Finally, the examples do not establish that the addition of acid itself provides for the increased conductivity given that no comparative example is provided showing that a composition with a pH lower than 1.34 (Example 1) without the aid of an additional acid fails to have increased conductivity. As now presented, it is not made clear if the increase in conductivity is due to the acid or due to decreased in pH.

Appellant argues that it would not have been obvious to one of ordinary skill in the art to lower the pH because a fast reaction results in different end products.

It has not been shown why different end products having different particle sizes and molar weights would affect the physical properties of the polymer. Specifically, it is not made clear how these differences would preclude the polymer from being conductive and transparent. Furtermore, Jonas clearly teaches the desirability of increasing polymerization rate by using acids. Therefore, one of ordinary skill in the art reading Jonas would not be discouraged from using acid to increase polymerization rate.

Appellant argues that the examiner has relied upon improper hindsight reconstruction to reject the instant claims.

It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The examiner has relied upon the references and the teachings and motivations contained within to arrive at the presently claimed invention.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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